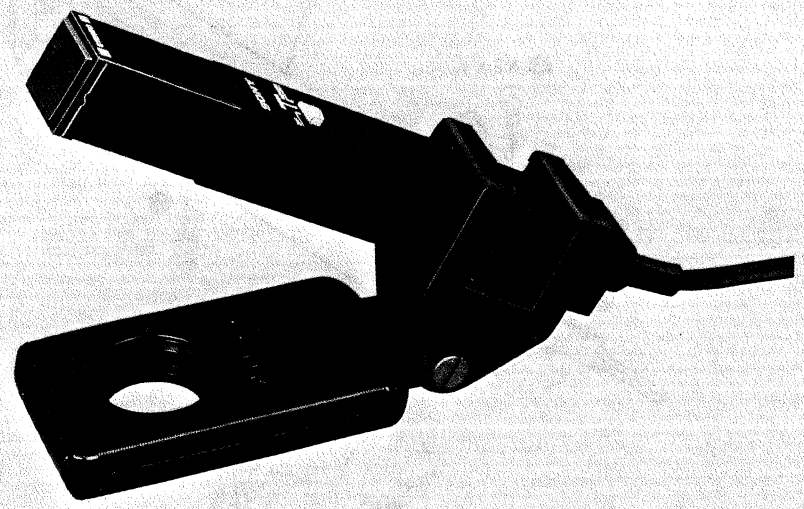
ECM-939LT

E Model



ELECTRET CONDENSER MICROPHONE

SPECIFICATIONS

GENERAL

Type:	Electret condenser microphone (with back-electret condenser)
FET:	Junction FET x 2
Mercury Battery:	EVEREADY No. EPX675
Microphone Output Terminal:	Two Way Plug
Dimensions:	16 x 121 mm $^{21}/_{32}$ x 4 $^{7}/_{8}$ inches
Weight:	120 g, 4.2 oz (including battery)
Finish:	Silver Alumite

PERFORMANCE

Directivity:	Uni-directional
Frequency Response:	70 Hz to 15,000 Hz
Output Impedance:	Low impedance unbalanced
Output Level (deviation ± 3 dB):	Open circuit voltage*: -70.0 dB (0.32 mV) *0 dB = 1 mW/10μbar at 1,000 Hz Recommended load impedance is more than 3 kΩ.
Power Requirements:	Normal operating voltage: 1.35 V DC Minimum operating voltage: 1.1 V DC Current drain: Less than 1.0 mA Battery life: Approx. 180 hours with EVEREADY No. EPX675
Noise Level:	Signal-to-noise ratio; More than 42 dB (1,000 Hz, 1μbar) Inherent noise; Less than 32 dB SPL (0 dB = 2×10^{-4} μbar) wind noise *1: (with the wind screen) Less than 50 dB SPL Induction noise from external magnetic field *2: Less than 5 dB SPL/m gauss
Maximum Sound Pressure Input Level: (at 1,000 Hz, 1 % distortion)	126 dB SPL (0 dB = 2×10^{-4} μbar)
Dynamic Range:	More than 94 dB
Environmental Temperatures:	-20°C to +60°C for storage 0°C to +60°C for operation

*1 Wind noise is the value measured by applying a wind velocity of 2 m/sec. from all directions to the microphone. The mean value is taken and converted to the equivalent input sound level.

*2 The external magnetic field induction noise is measured with the microphone placed in an alternating magnetic field of 50 Hz, 1 milligauss. The maximum noise value is taken and then converted to the equivalent input sound level. (0 dB = 2×10^{-4} μbar)

MICROFILM

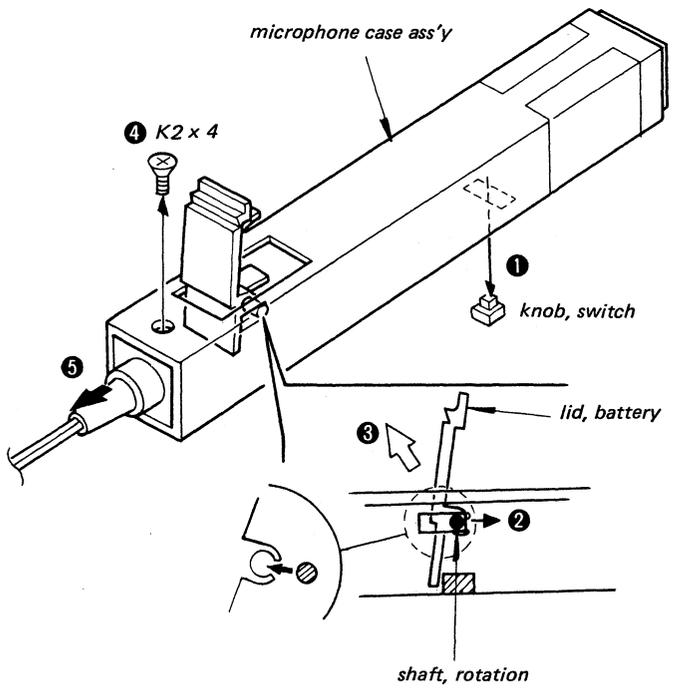
SONY®

SERVICE MANUAL

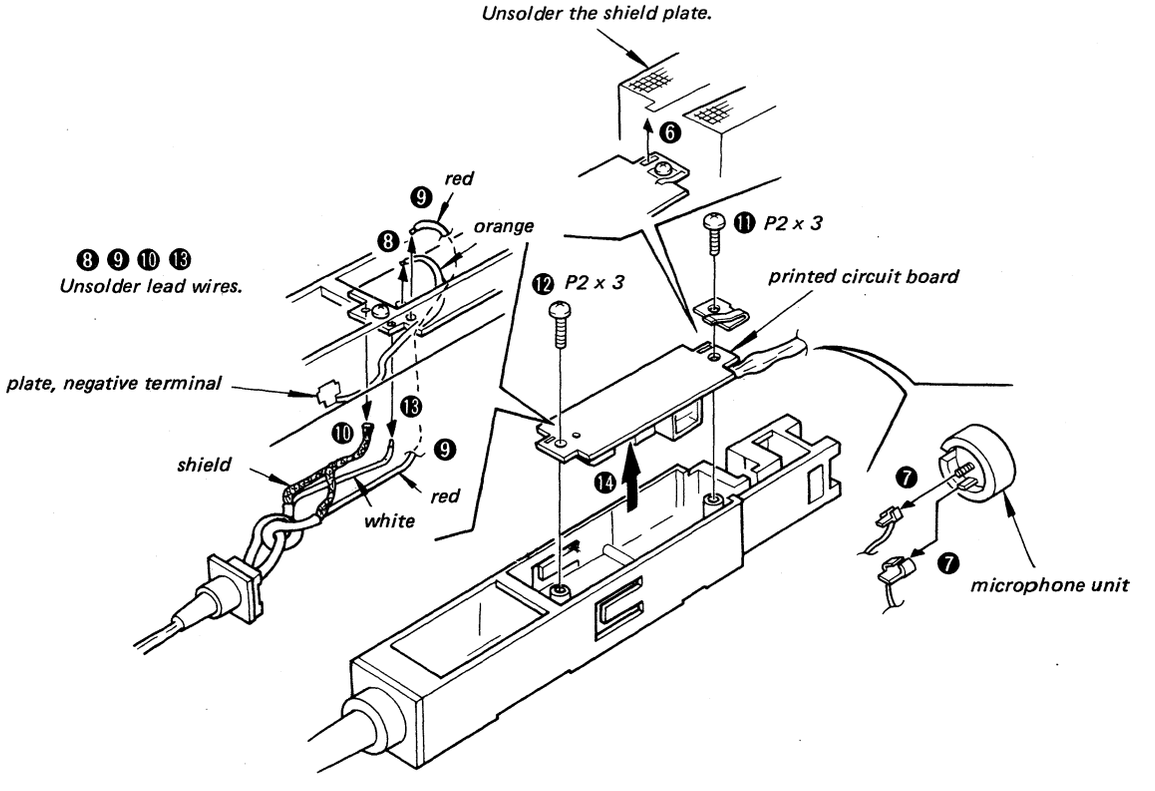
1. DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

Microphone Case Ass'y

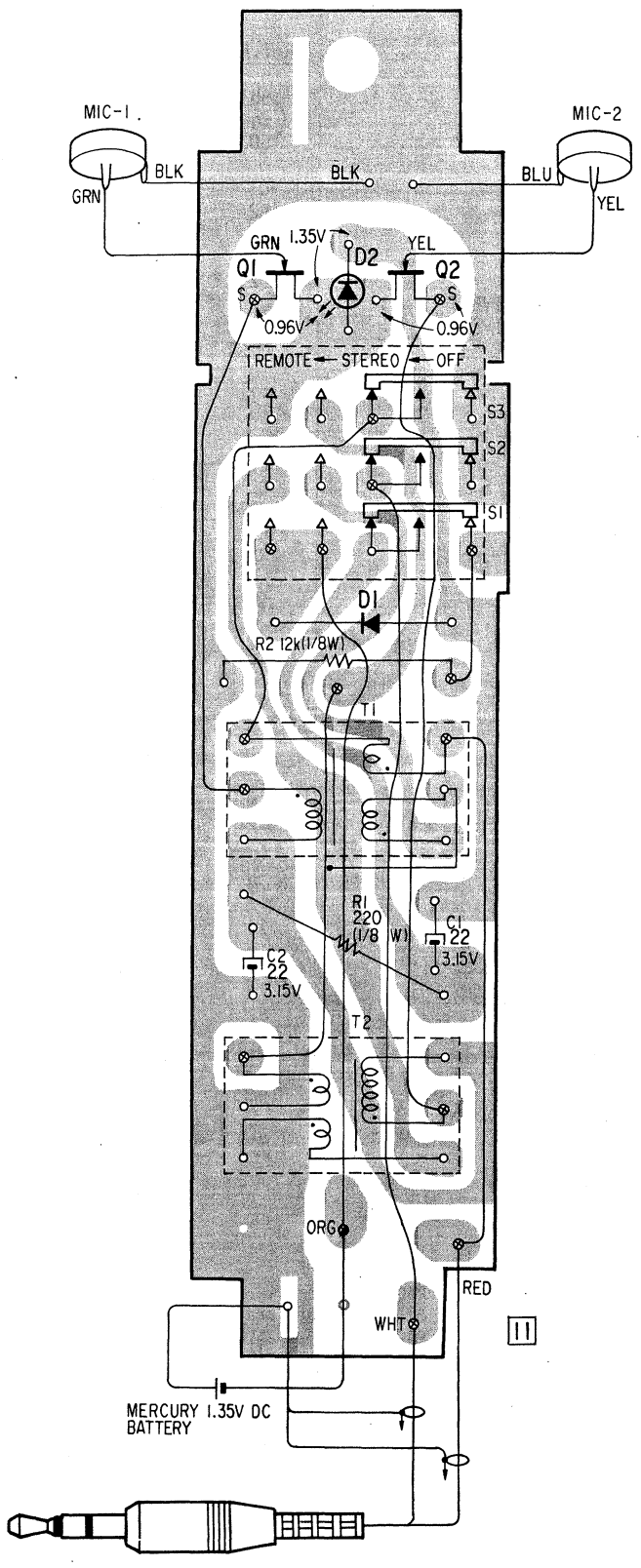


Printed Circuit Board/Microphone Unit



2. MOUNTING DIAGRAM

– Conductor Side –

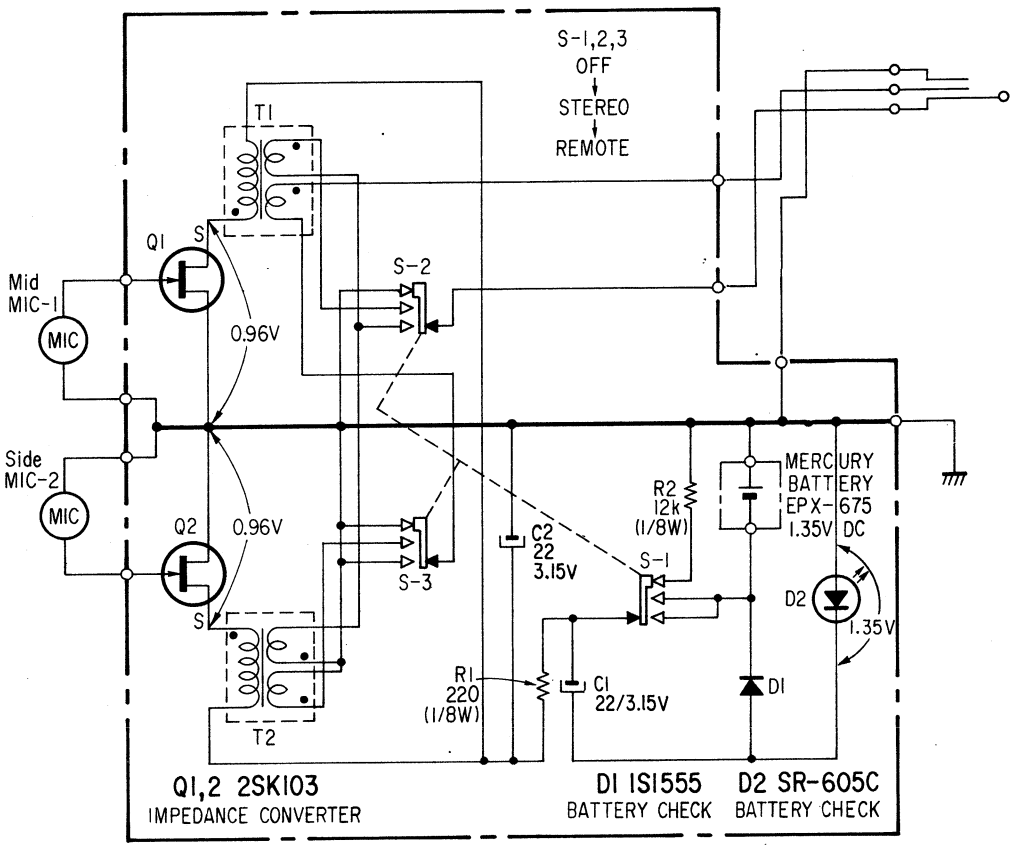


Note:

- ○— : parts extracted from the component side.
- ⊗ : Through hole.

A B C D

3. SCHEMATIC DIAGRAM

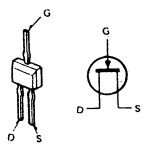
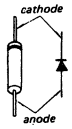
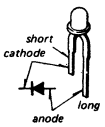


5V
5V

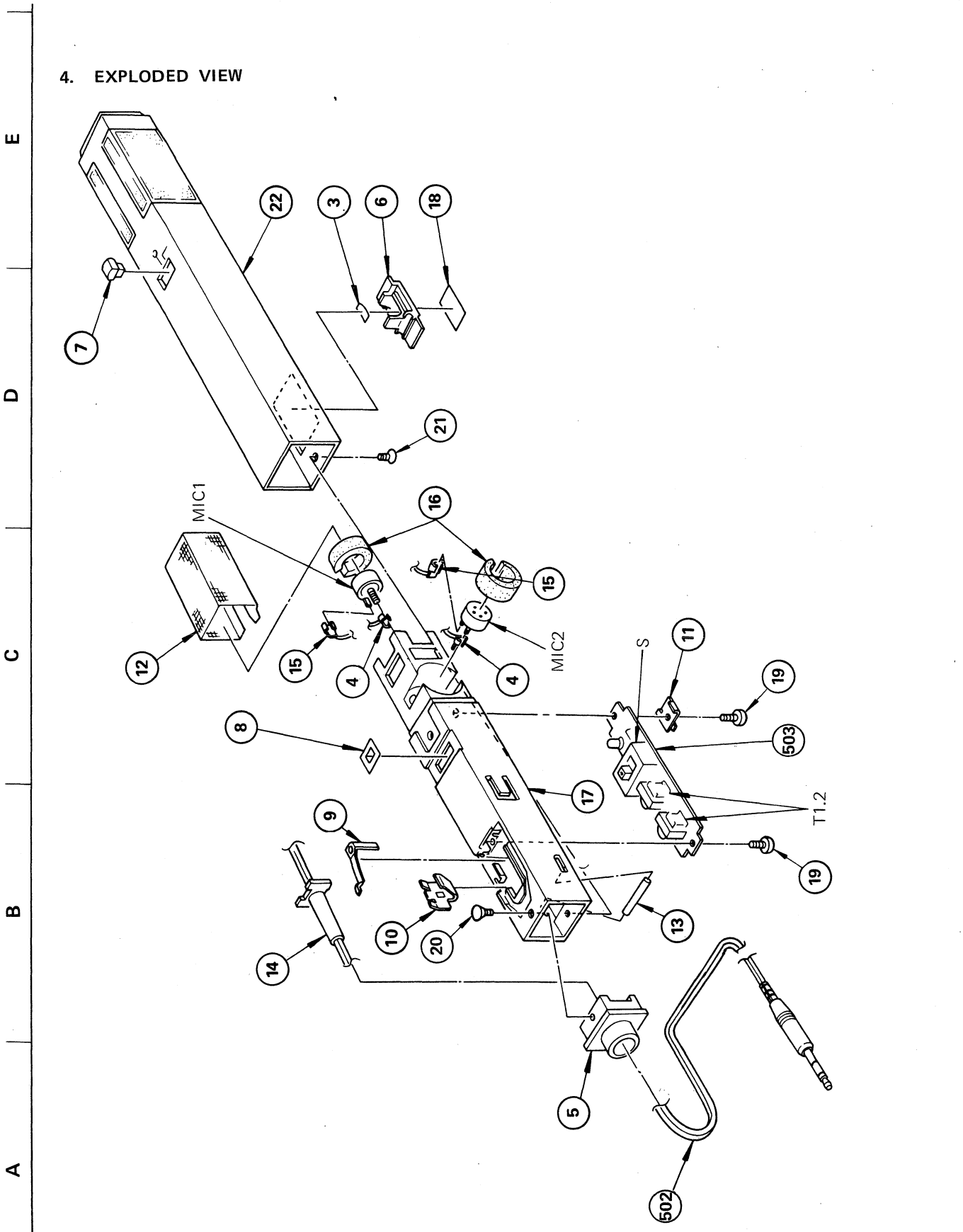
Note:

- All capacitors are in μF. (P: pF)
- All resistors are in ohms.
- Voltages are taken with a VOM whose input impedance is more than 1 MΩ.

Semiconductor Lead Layouts

2SK103MA	1S1555	SR-605C
		

4. EXPLODED VIEW



5. PARTS LIST

GENERAL SECTION

No.	Part No.	Description
1	2-529-930-11	BUSHING, CORD
2	.....	
3	2-523-618-00	LABEL, BATTERY
4	2-523-713-00	TERMINAL
5	2-529-902-11	HOLDER, BUSHING
6	2-529-903-11	LID, BATTERY CASE
7	2-529-904-11	KNOB, SWITCH
8	♦;2-529-911-00	SLIDER
9	2-529-912-00	BOARD, TERMINAL, POSITIVE
10	2-529-913-00	BOARD, TERMINAL, NEGATIVE
11	2-529-914-00	TERMINAL (A), GROUND
12	♦;2-529-915-00	PLATE, SHIELD
13	♦;2-529-916-00	SHAFT, ROTARY
14	2-529-917-11	BUSHING
15	2-529-927-00	TERMINAL (B), GROUND
16	♦;2-529-933-00	CUSHION, CAPSULE
17	♦;2-529-939-00	FRAME, MICROPHONE
18	2-531-605-00	LABEL, MODEL NUMBER
19	7-621-255-15	SCREW, +P 2X3
20	7-621-555-10	SCREW, +P 2X3
21	7-627-452-28	SCREW, PRECISION +K 2X4
22	A-4514-037-A	CASE ASSY

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
31		BATTERY, MERCURY (MR-44)
32	2-100-951-00	ADAPTOR, SCREW, STAND (SAD-34)
33	2-100-952-00	ADAPTOR, SCREW, STAND (SAD-35)
34	2-529-941-00	SCREEN, WINDOW
35	2-531-615-00	CARRYING CASE
36	2-531-617-00	CARTON
37	2-531-618-00	FRAME, INNER
38	2-599-174-11	MANUAL, INSTRUCTION
39	3-793-557-11	LEAFLET
40	A-4581-025-A	STAND ASSY, MICROPHONE

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	1-506-410-00	PLUG, STANDARD
502	1-555-782-00	CORD
503	♦;1-603-776-00	PC BOARD, SWITCH TRANSFORMER
C1	1-131-391-00	CAP, TANTALUM ELECT 22MF 20% 3.15V
C2	1-131-391-00	CAP, TANTALUM ELECT 22MF 20% 3.15V
D1	8-719-815-55	DIODE 1S1555
D2	8-719-160-52	DIODE SR605C
MIC1	8-814-173-00	MICROPHONE, BUILTIN (CU11-01)
MIC2	8-814-174-00	MICROPHONE, BUILTIN (CU11-02)
P1	1-506-404-21	PLUG (RED)
P2	1-506-404-31	PLUG (WHT)
Q1	8-729-100-34	TRANSISTOR 2SK103-MA
Q2	8-729-100-34	TRANSISTOR 2SK103-MA
R1	1-246-775-00	RES, CARBON 220 5% 1/8W
R2	1-246-796-00	RES, CARBON 12K 5% 1/8W
S	1-553-443-00	SWITCH, SLIDE
T1	1-427-491-00	TRANSFORMER, OUTPUT (MIC)
T2	1-427-491-00	TRANSFORMER, OUTPUT (MIC)

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.
- F : nonflammable

COILS
- MMH : mH, UH : μH

Sony Corporation

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